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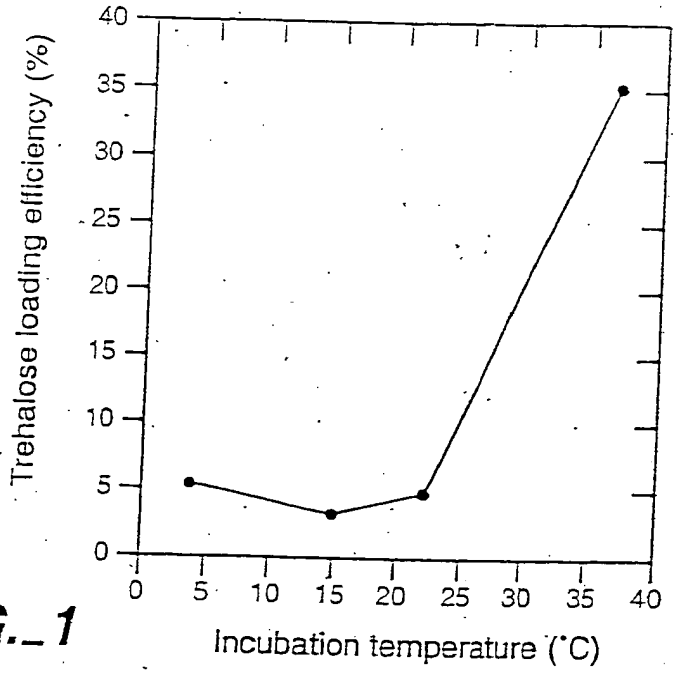

Trehalose loading efficiency (%)
0
5
10
15
20
25
30
35
40
0
5
10
15
20
25
30
35
40
Incubation temperature (°C)

FIG._1

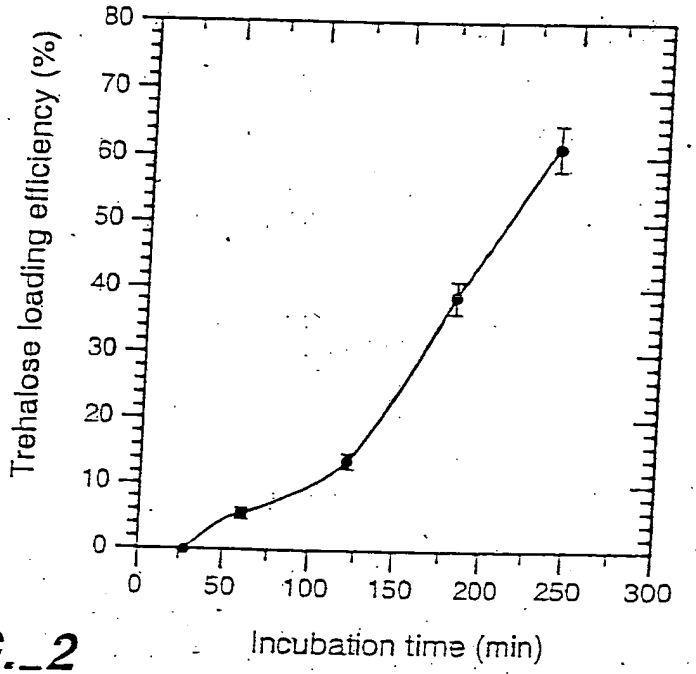

Trehalose loading efficiency (%)
0
10
20
30
40
50
60
70
80
0
50
100
150
200
250
300
Incubation time (min)

FIG._2

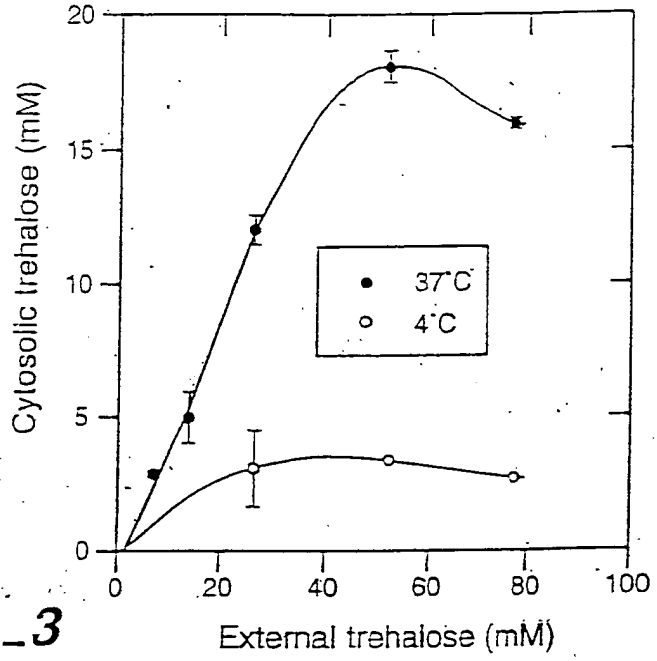

Cytosolic trehalose (mM)
External trehalose (mM)
37°C
4°C
0
5
10
15
20
0
20
40
60
80
100

FIG._3

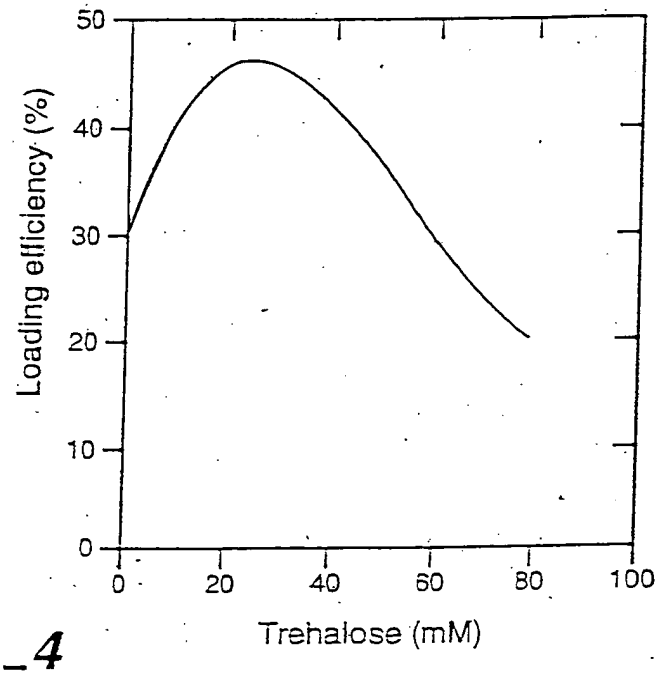

Loading efficiency (%)
Trehalose (mM)
0
10
20
30
40
50
0
20
40
60
80
100

FIG._4

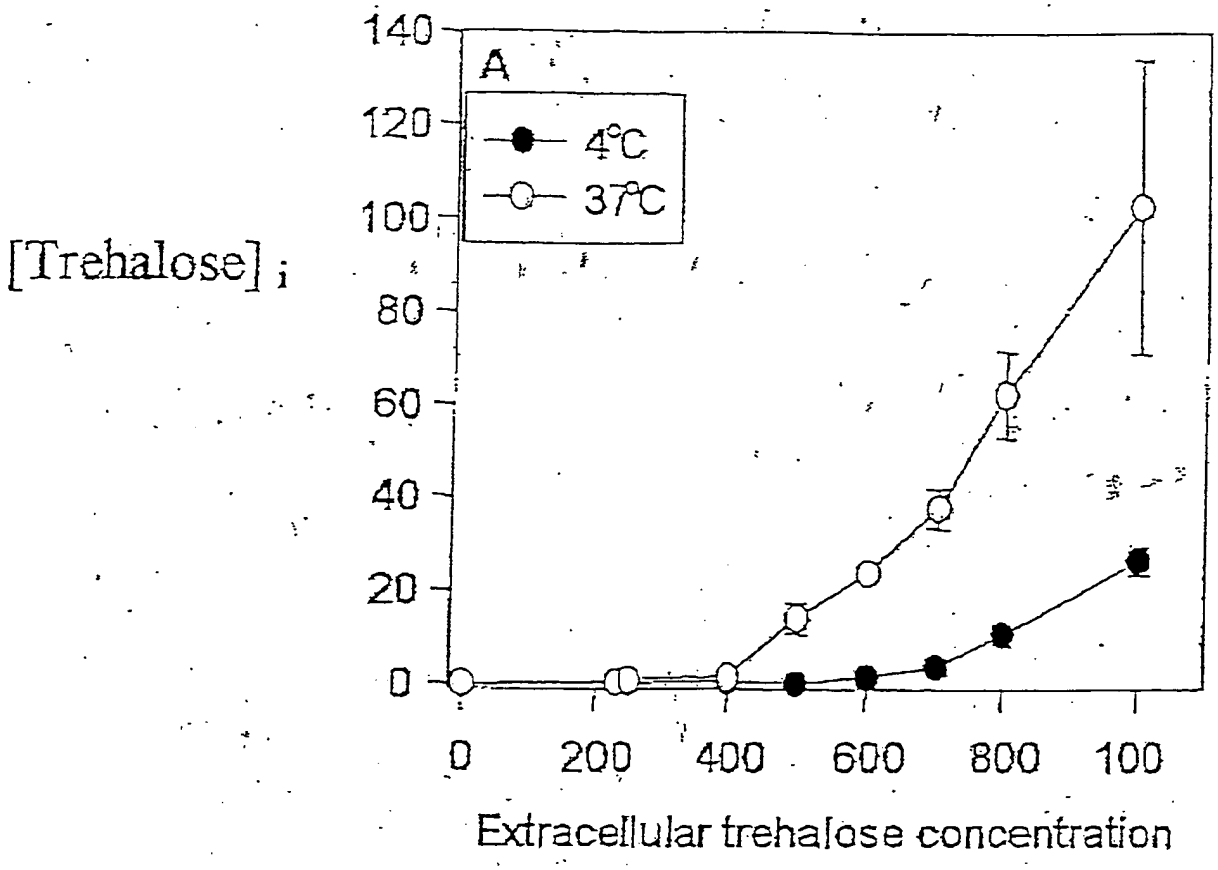
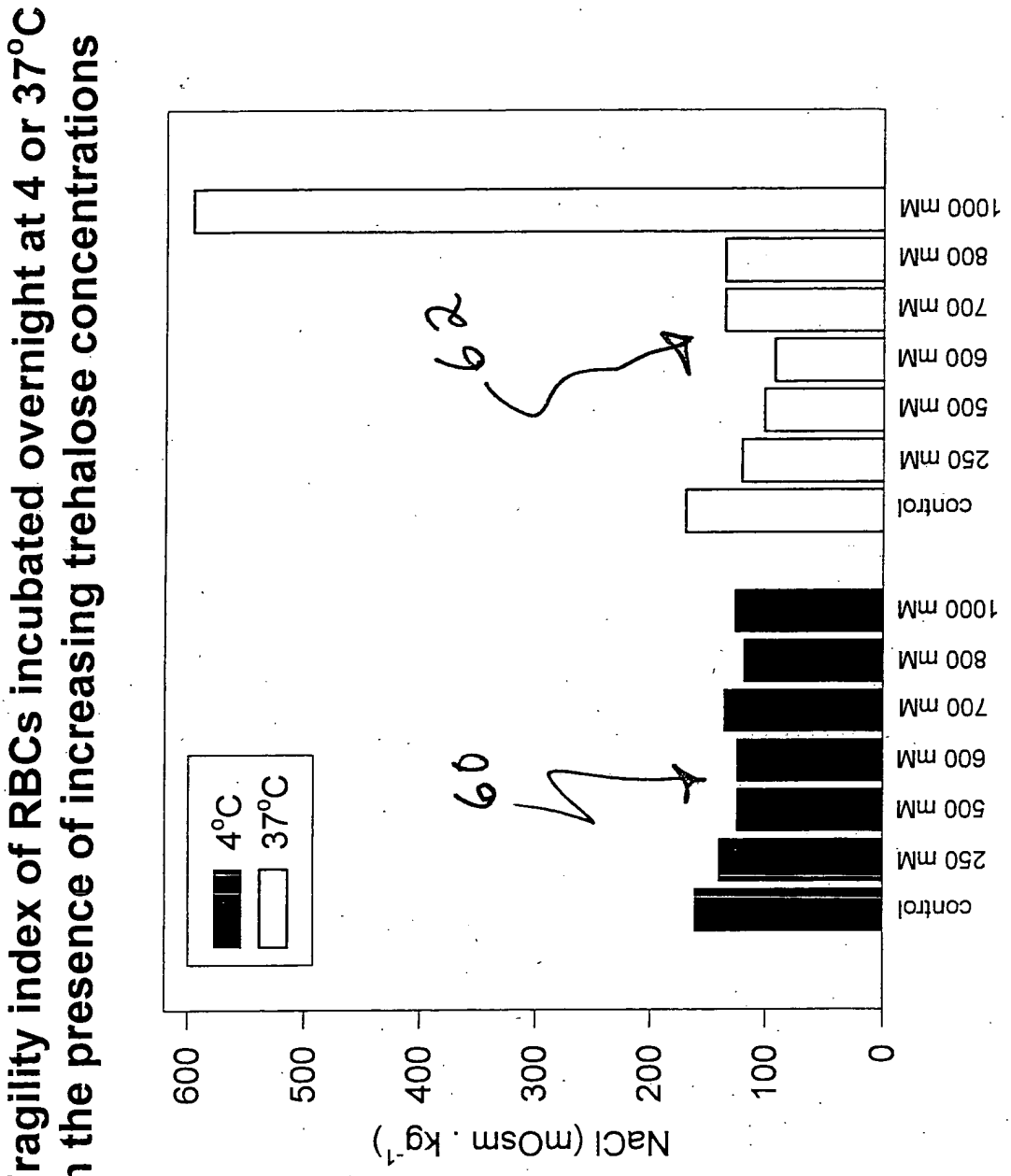

[Trehalose] i
140
120
100
80
60
40
20
0
A
4°C
37°C
0
200
400
600
800
100
Extracellular trehalose concentration

Fig. 5

Figure 6


Fragility index of RBCs incubated overnight at 4 or 37°C in the presence of increasing trehalose concentrations
NaCl (mOsm . kg-1)
0
100
200
300
400
500
600
4°C
37°C
control
250 mM
500 mM
600 mM
700 mM
800 mM
1000 mM
control
250 mM
500 mM
600 mM
700 mM
800 mM
1000 mM
62
60

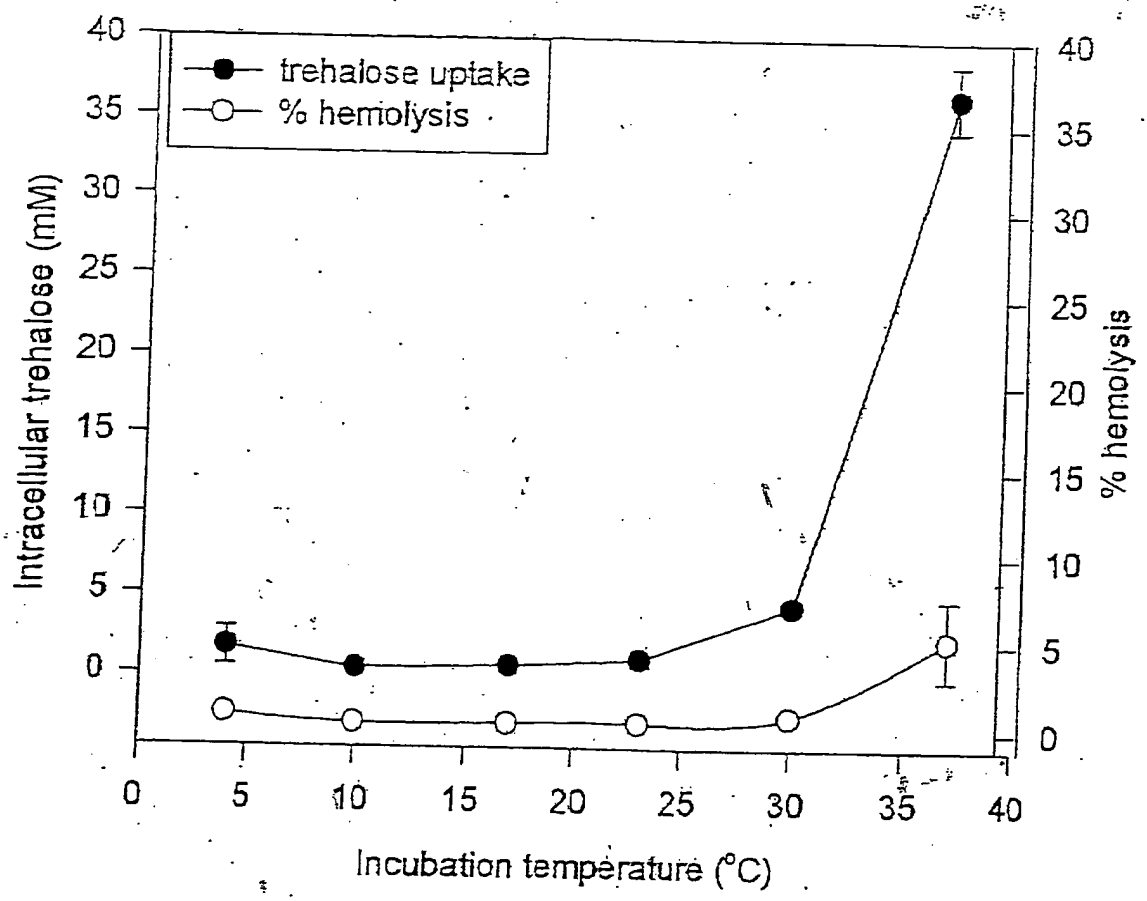

trehalose uptake
% hemolysis
Intracellular trehalose (mM)
% hemolysis
Incubation temperature (°C)
0
5
10
15
20
25
30
35
40

Fig 7

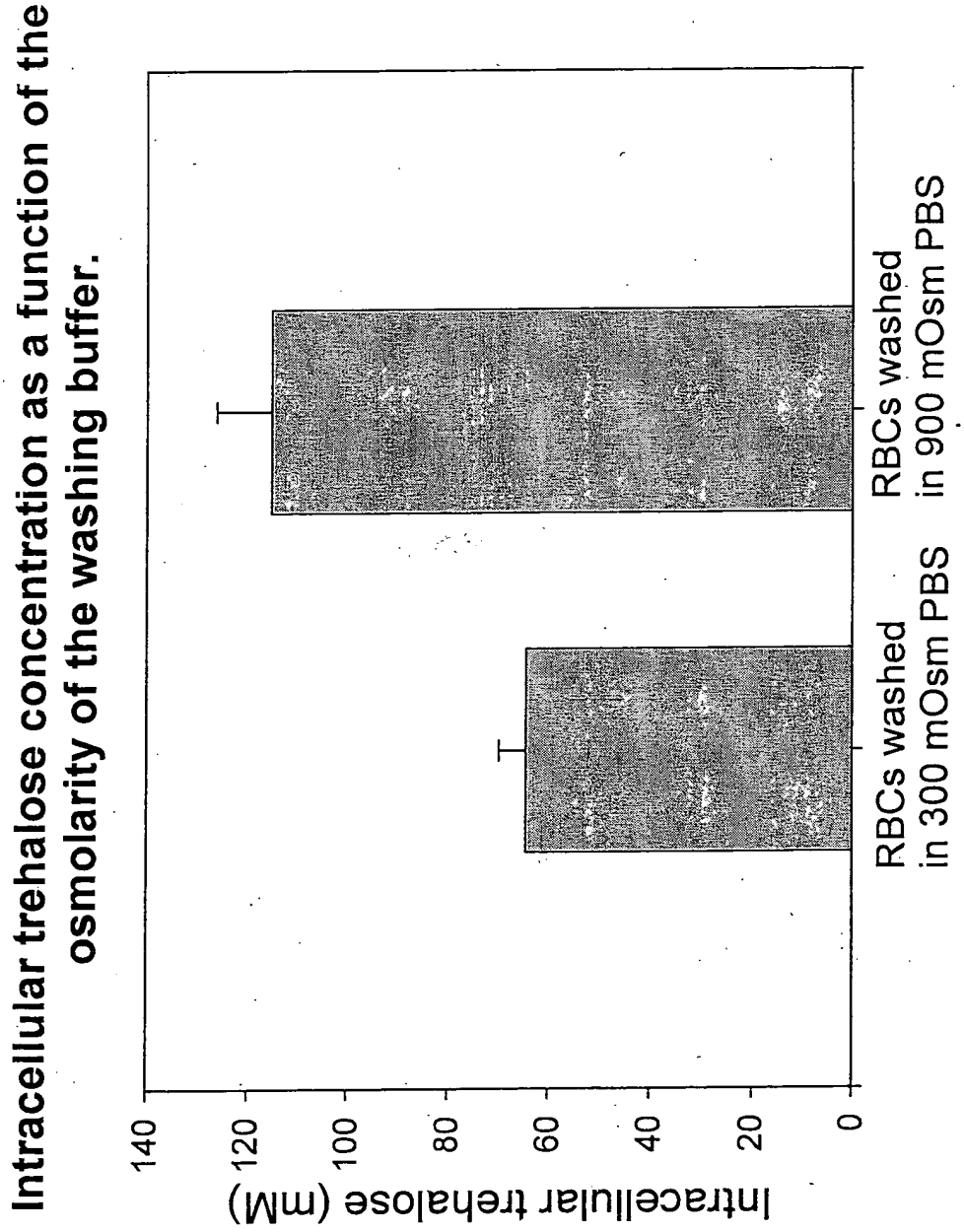

Intracellular trehalose concentration as a function of the osmolarity of the washing buffer.
Intracellular trehalose (mM)
0
20
40
60
80
100
120
140
RBCs washed in 300 mOsm PBS
RBCs washed in 900 mOsm PBS

Figure 8

Percent hemolysis of trehalose loaded RBCs as a function of time of incubation in 300 mOsm PBS. RBCs were loaded in 700 mM trehalose/100 mOsm PBS at 35°C for 16 hours and were incubated in 300 mOsm PBS.

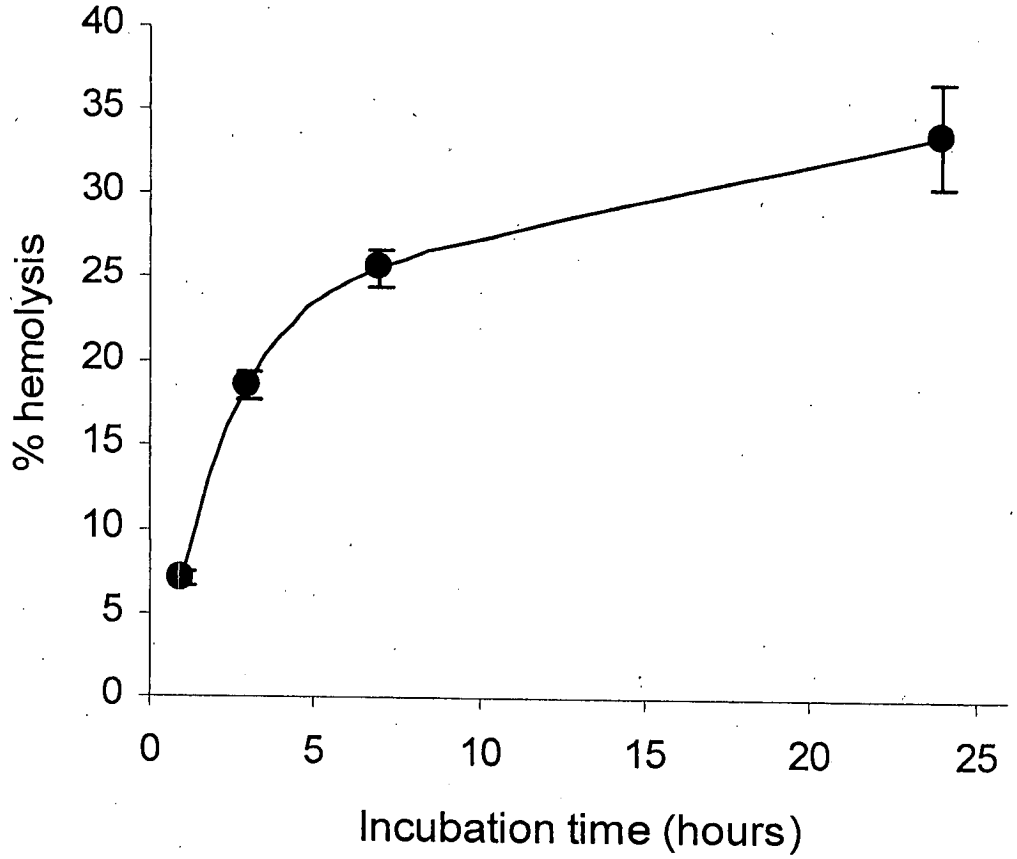


Figure 9

Percent hemolysis of trehalose loaded RBCs as a function of the composition of the incubation buffer. RBCs were loaded in 700 mM trehalose/100 mOsm PBS at 35°C for 16 hours

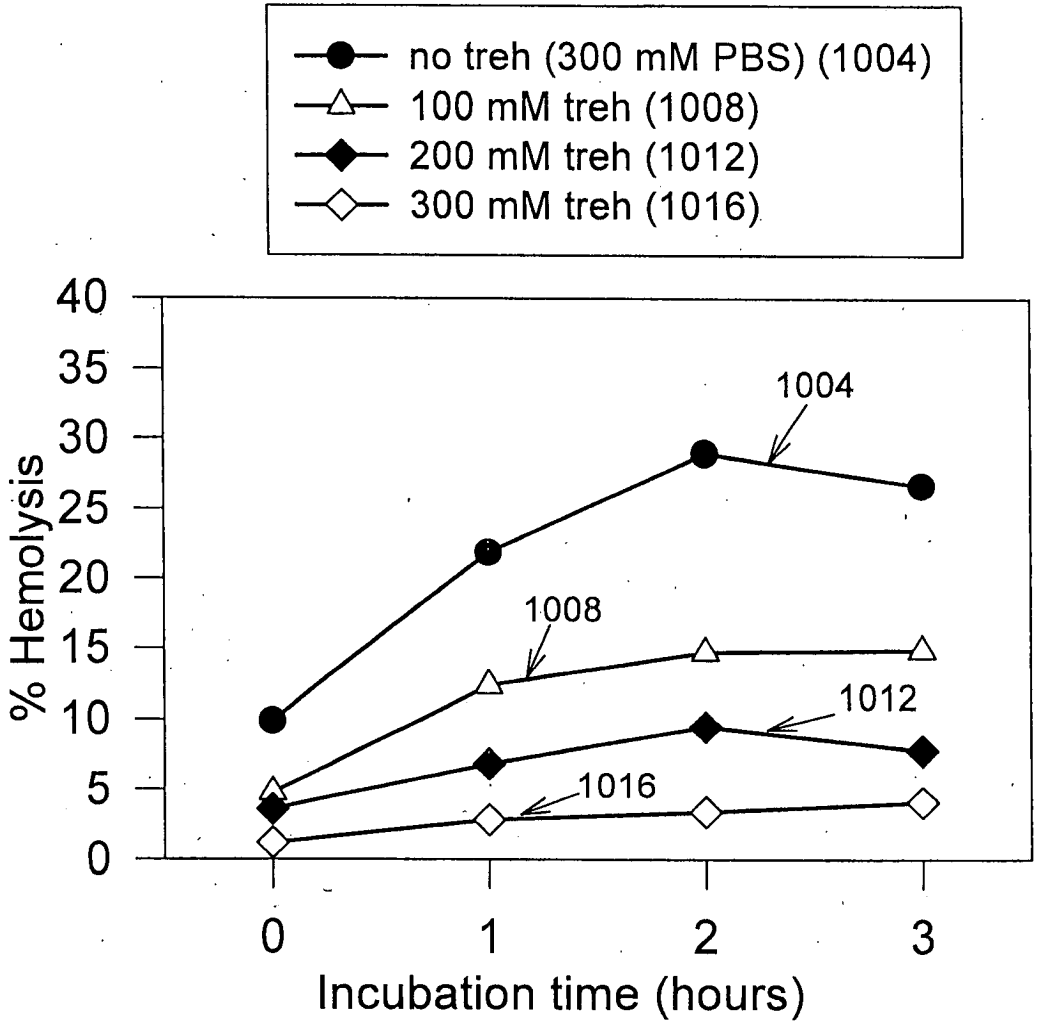


Figure 10

Percent hemolysis of trehalose loaded RBCs as a function of the composition of the incubation buffer. RBCs were loaded in 700 mM trehalose/100 mOsm PBS at 35°C for 16 hours

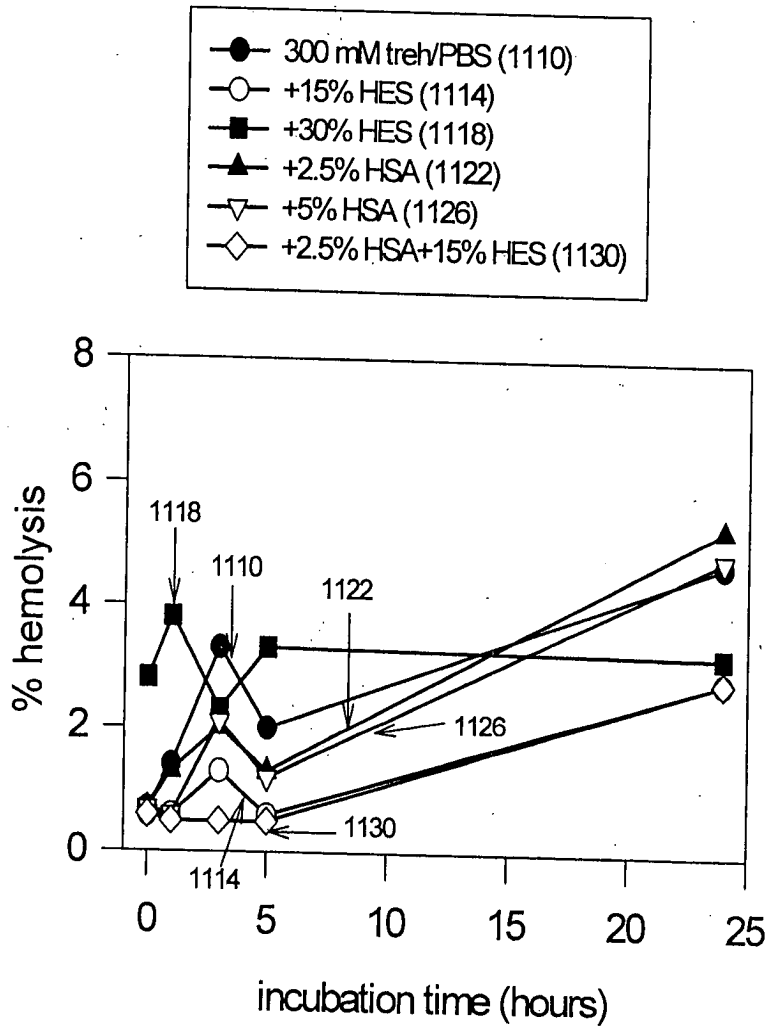


Figure 11

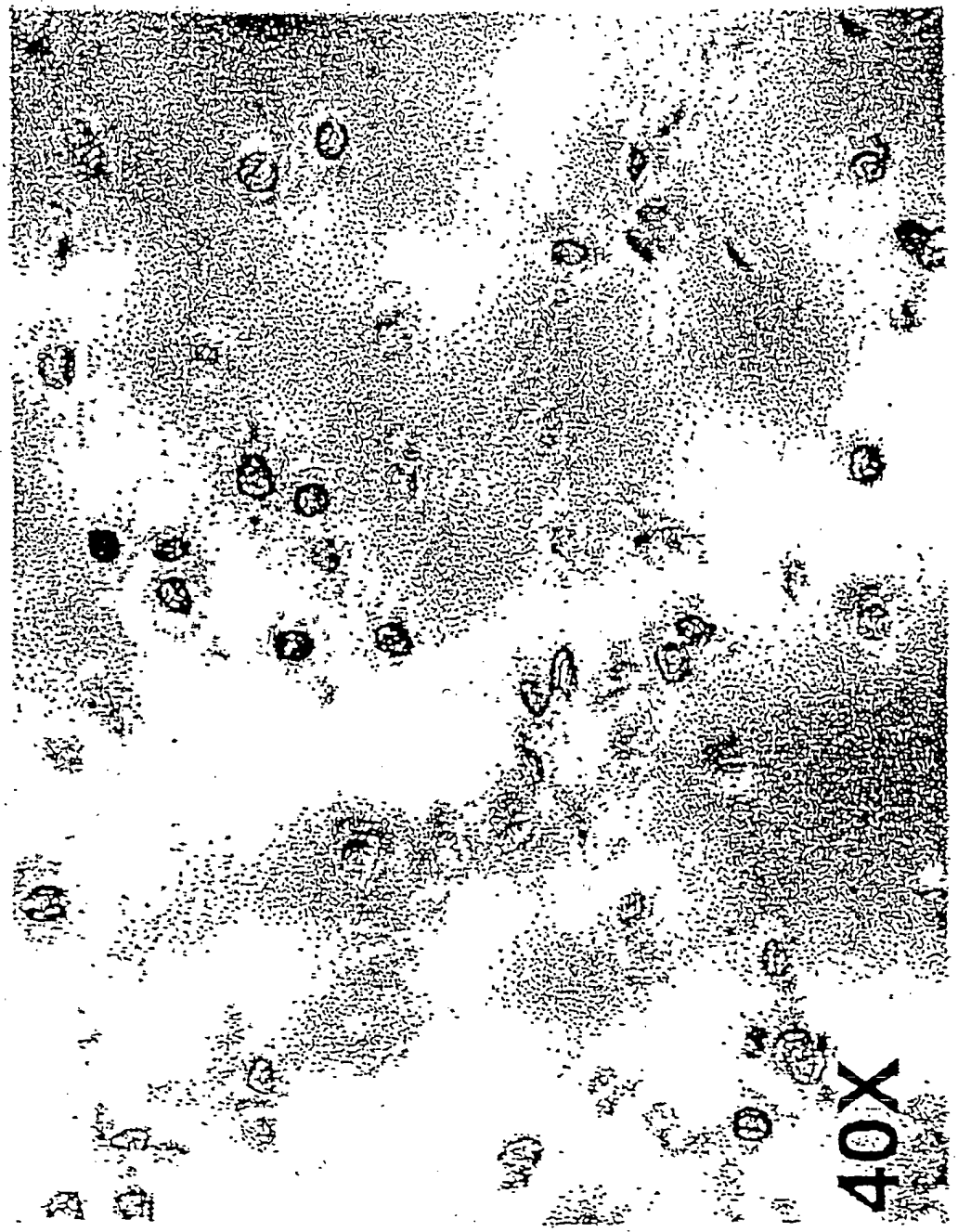


Fig 12

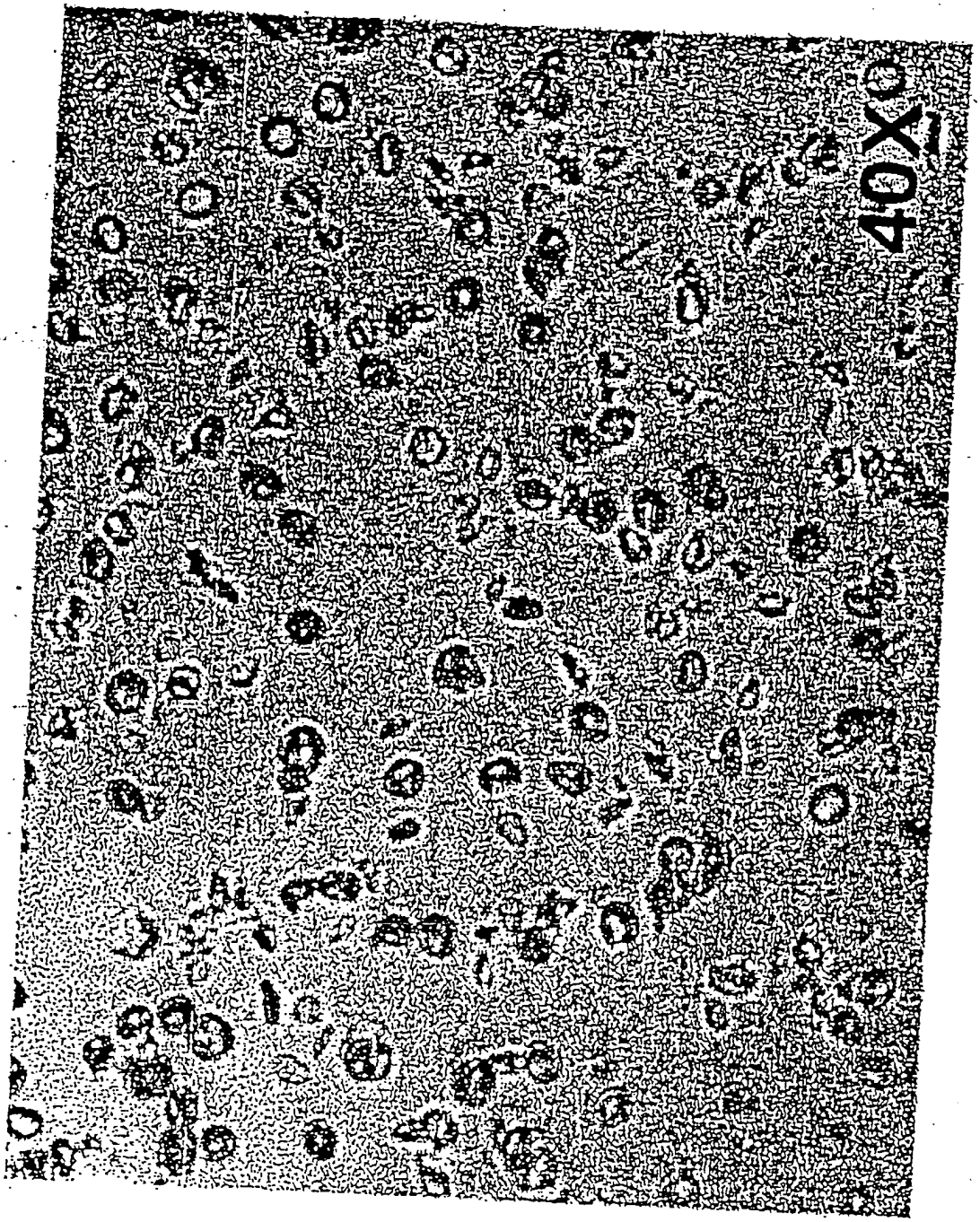


Fig 13

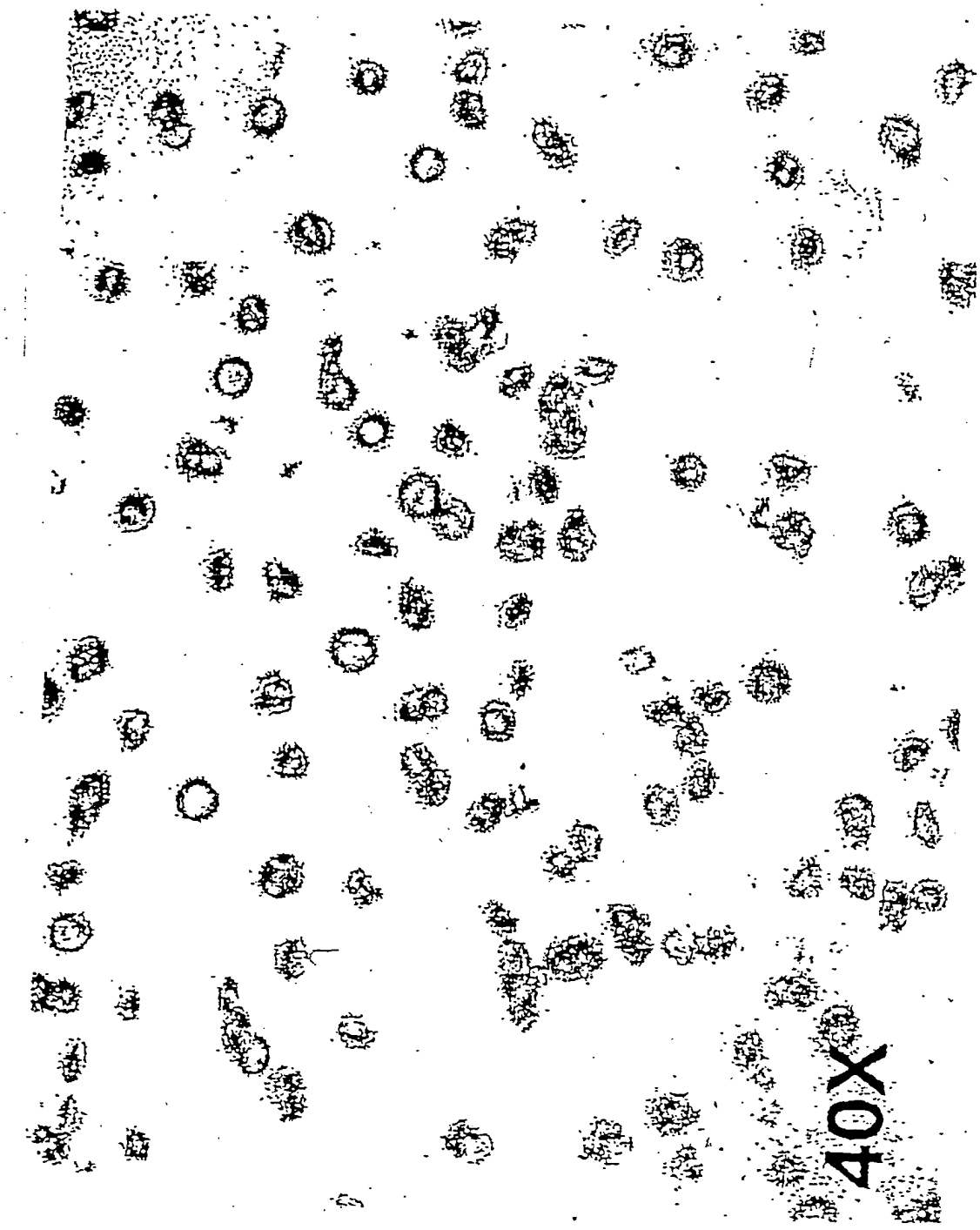


Fig 14

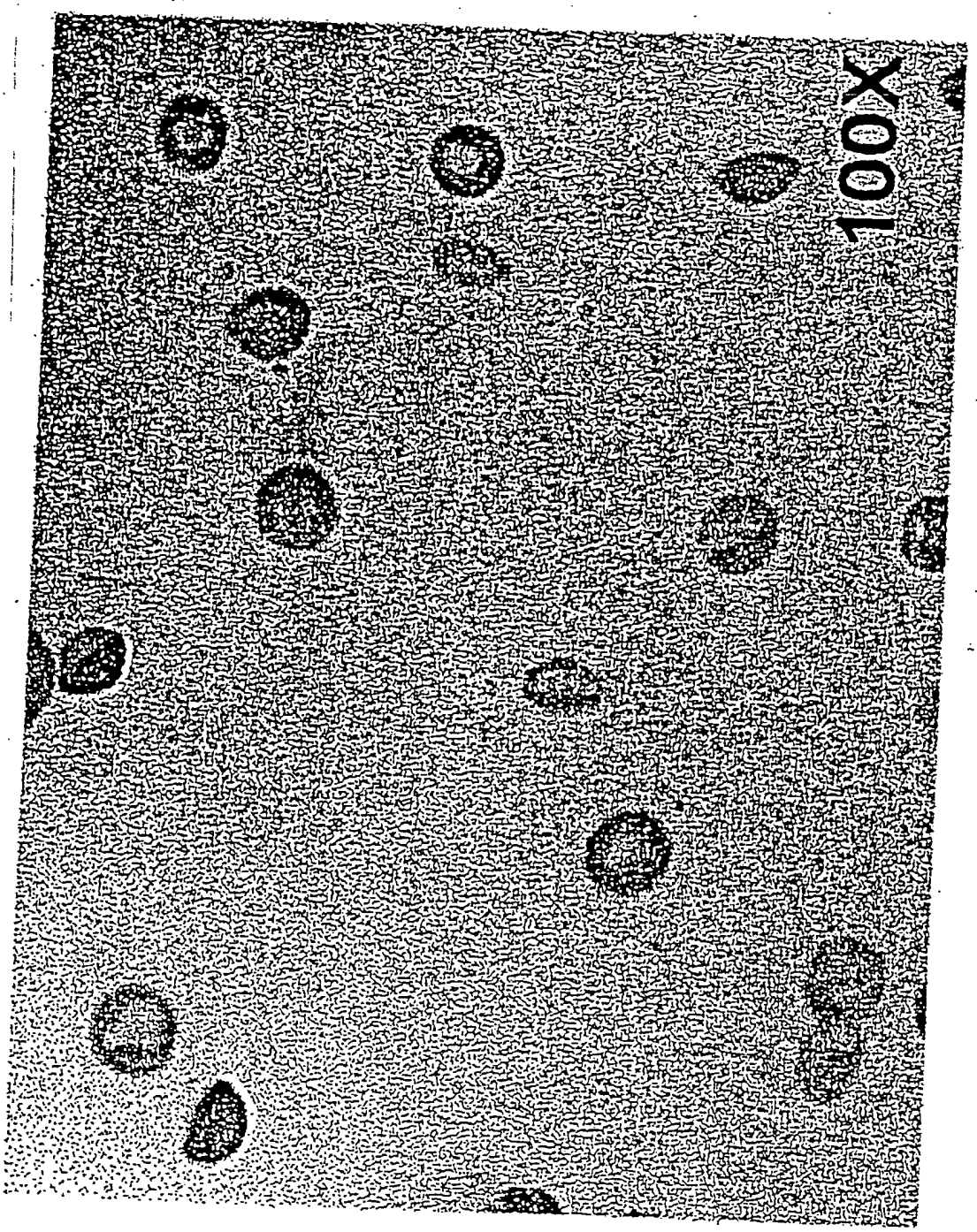


Fig 15

Fig 16

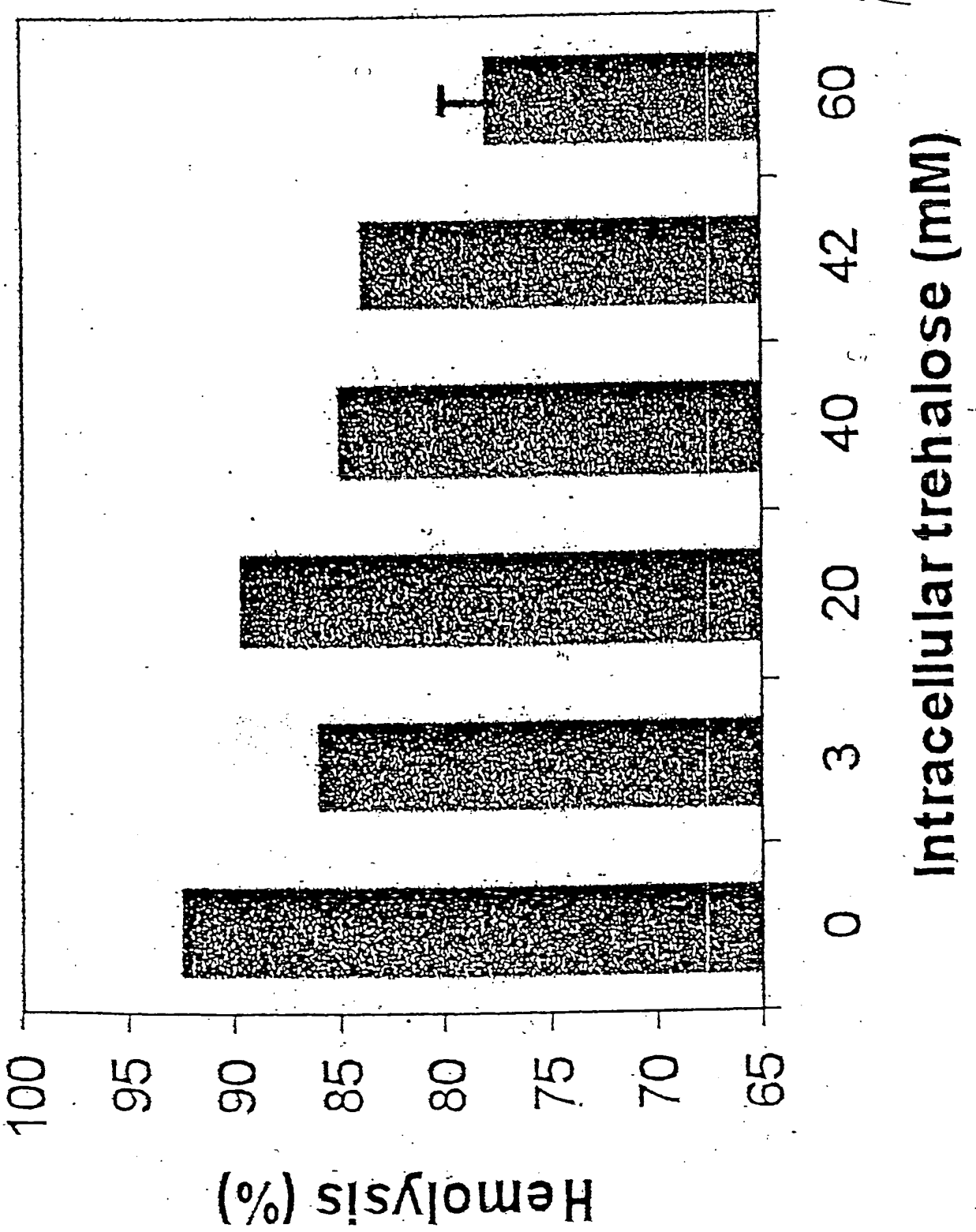
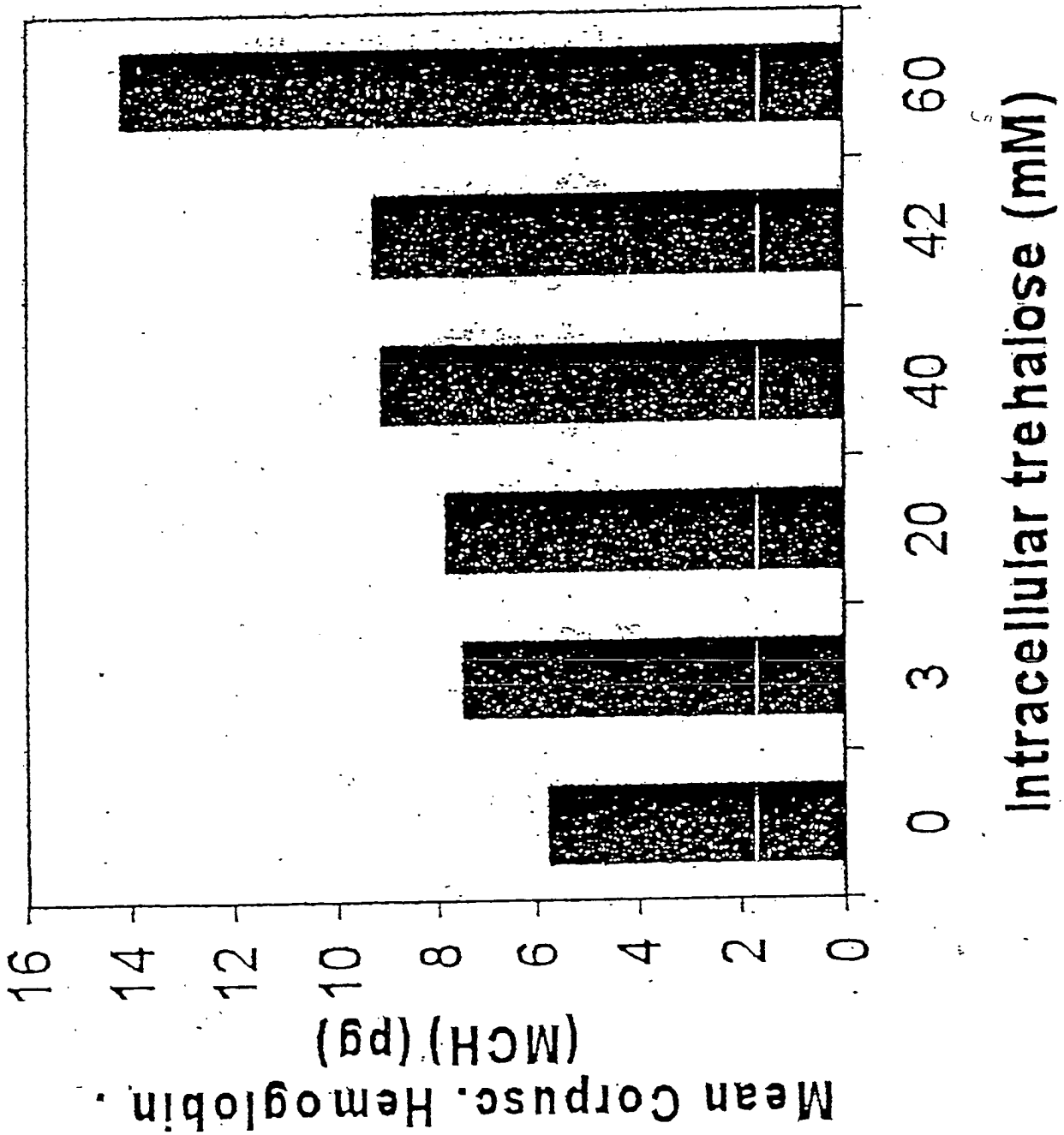

Hemolysis (%)
100
95
90
85
80
75
70
65
Intracellular trehalose (mM)
0
3
20
40
42
60

Fig 17


Mean Corpusc. Hemoglobin (MCH) (pg)
16
14
12
10
8
6
4
2
0
Intracellular trehalose (mM)
0
3
20
40
42
60

ATP (µmol/g Hb) in erythrocytes incubated in 800 mM trehalose and different buffers (see legend) as a function of time of incubation at 40°C

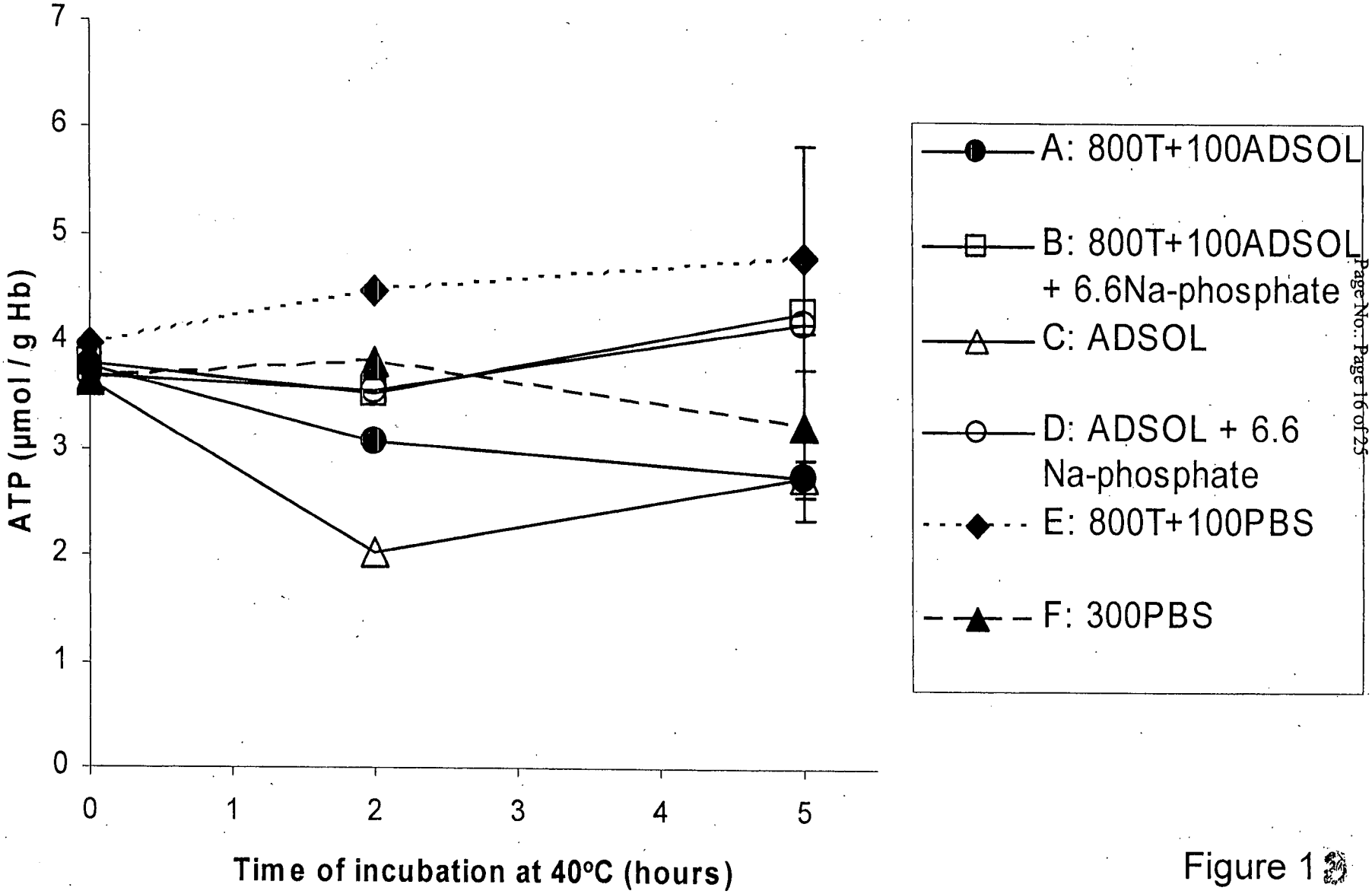


Figure 1

2,3-DPG level in erythrocytes incubated in different buffers as a function of time of incubation at 40°C

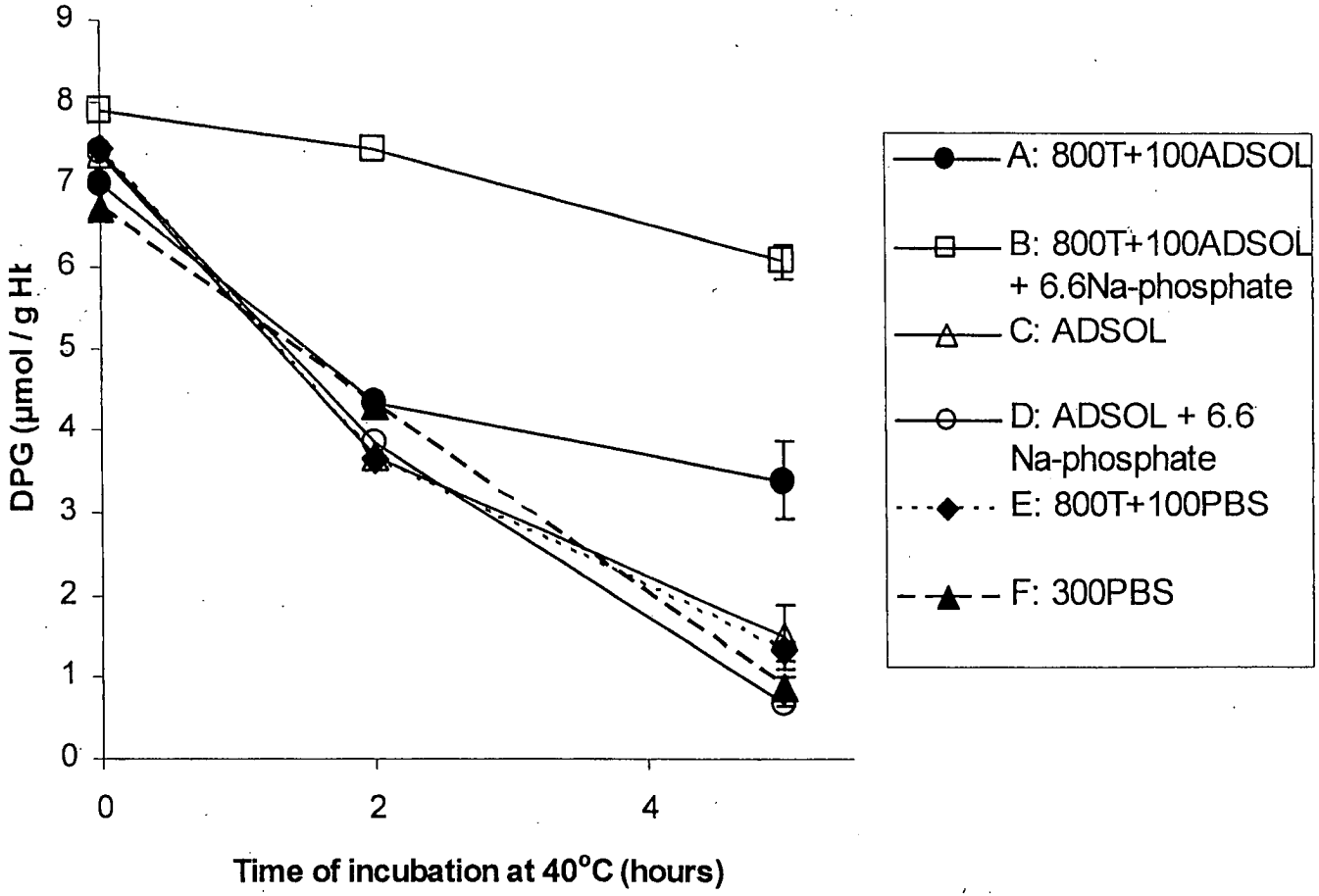


Figure 19

Effect of time of prehydration on the survival of freeze-dried and rehydrated erythrocytes

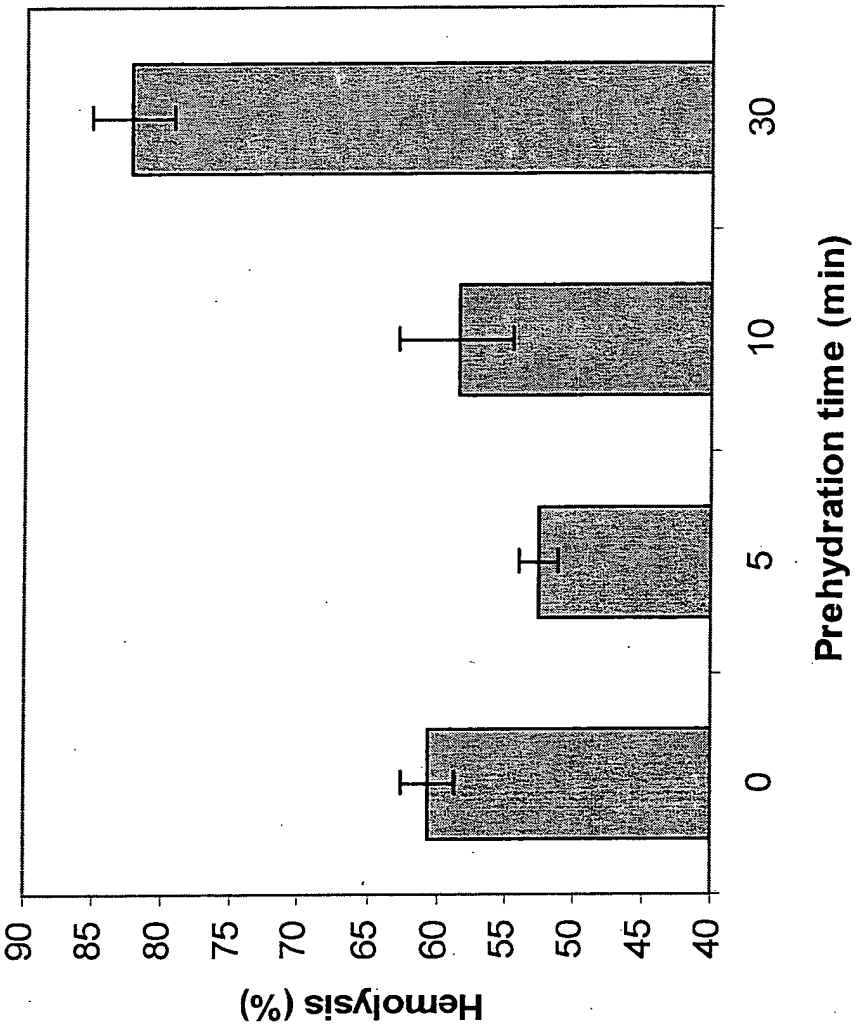


Figure 8

Effect of α-crystallin on the survival of freeze-dried and rehydrated erythrocytes

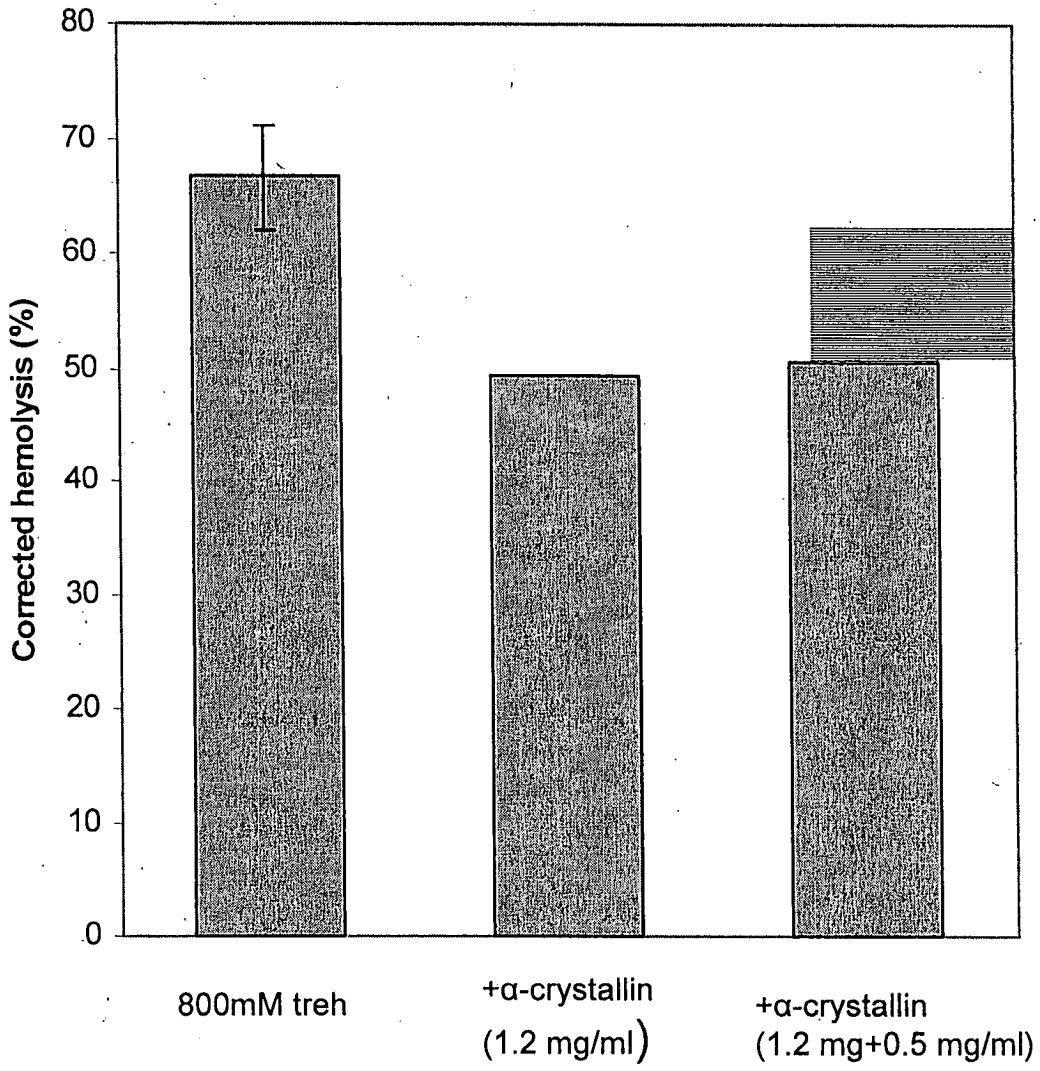


Figure 21

Effect of pre-hydration (5 min), α-crystallin (1.2 mg/ml) and Zn^{2+} (500 µl) on the survival of freeze-dried and rehydrated erythrocytes.

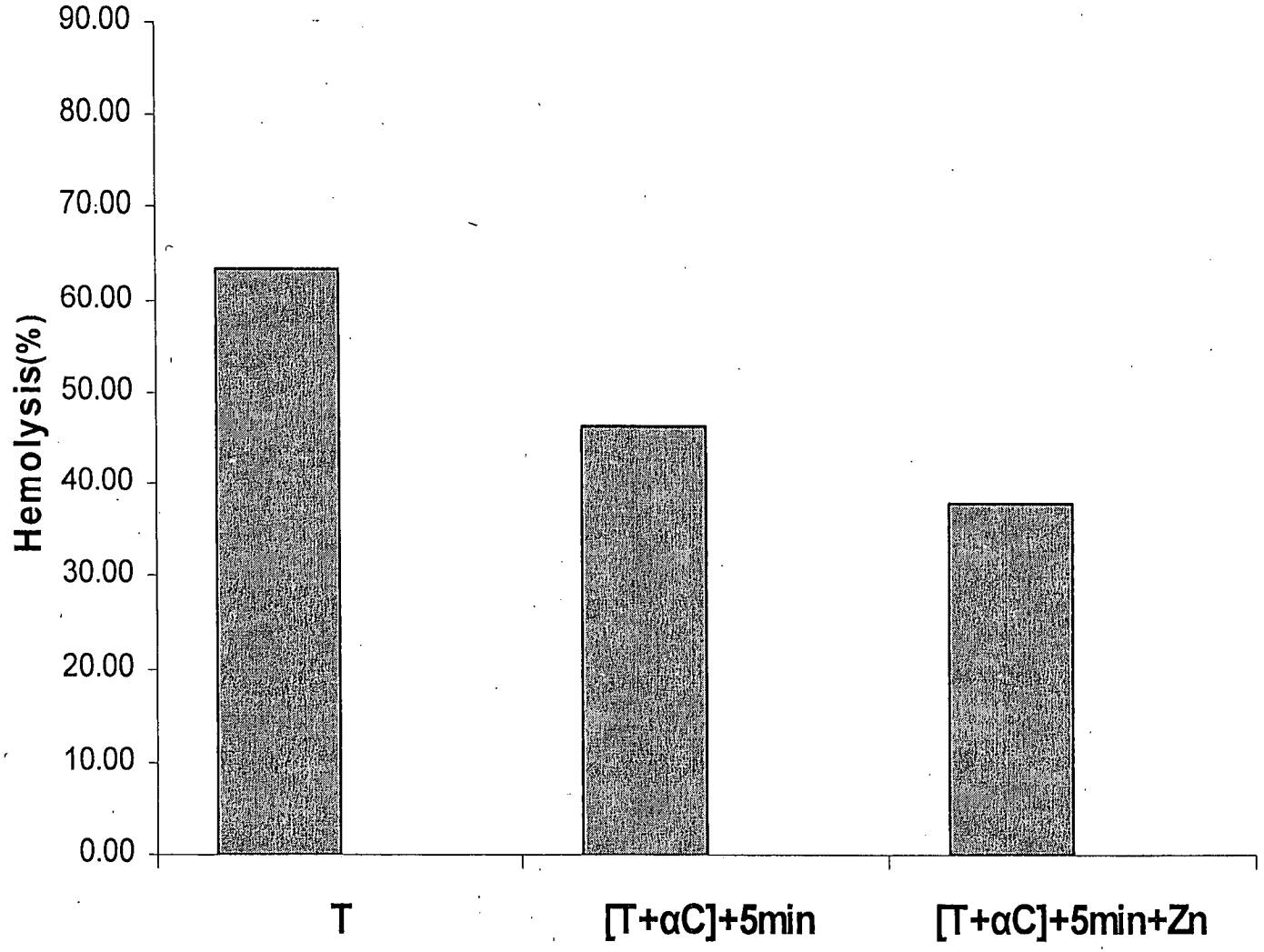
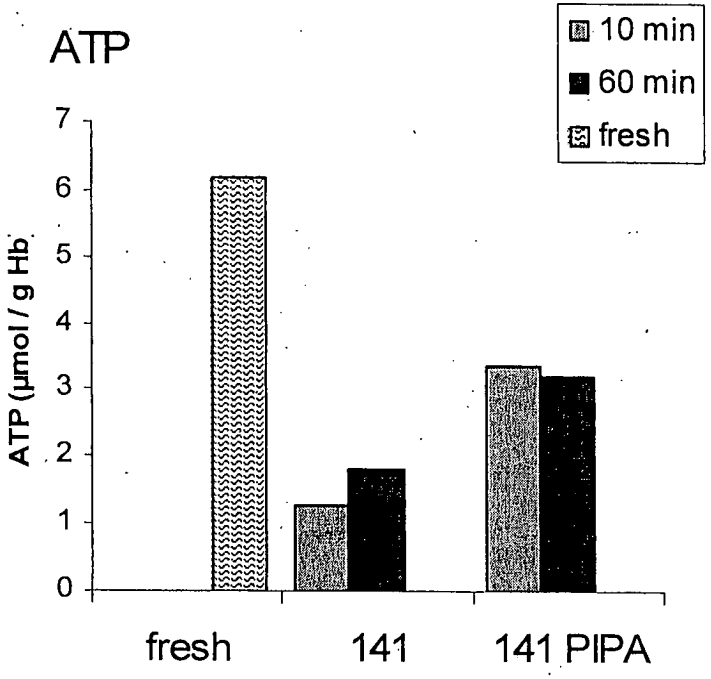


Figure 2a

Effect of rejuvenating buffer on the synthesis of ATP and 2,3-DPG in rehydrated erythrocytes.



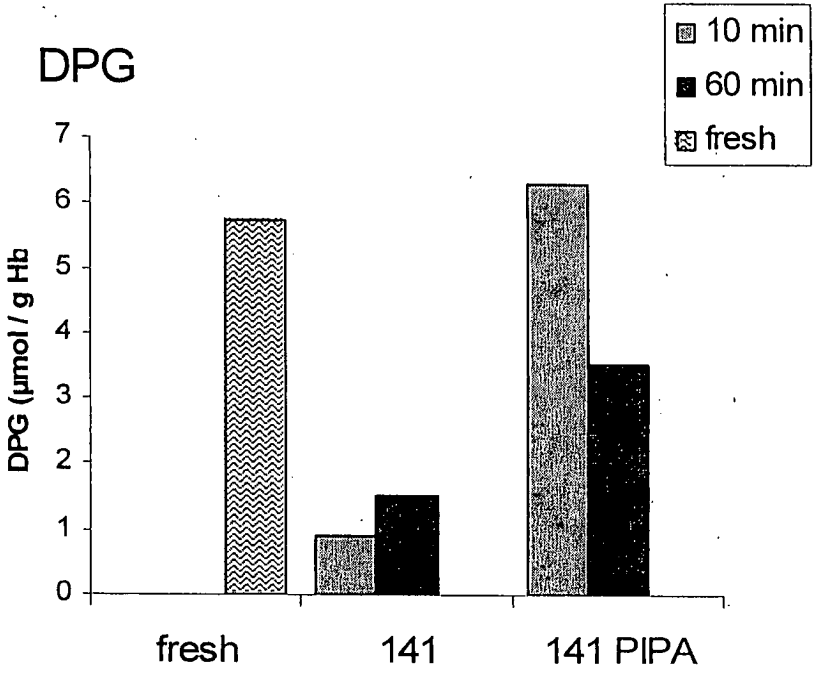


Figure 23

Figure Trehalose uptake by RBCs as a function of time of incubation in 800 mM trehalose/100 mOsm ADSOL/6.6 mM Na-phosphate (pH 7.2). 100 mOsm ADSOL is composed of 24mM glucose, 0.43 mM adenine, 33.3 mM NaCl and 8.9 mM mannitol)

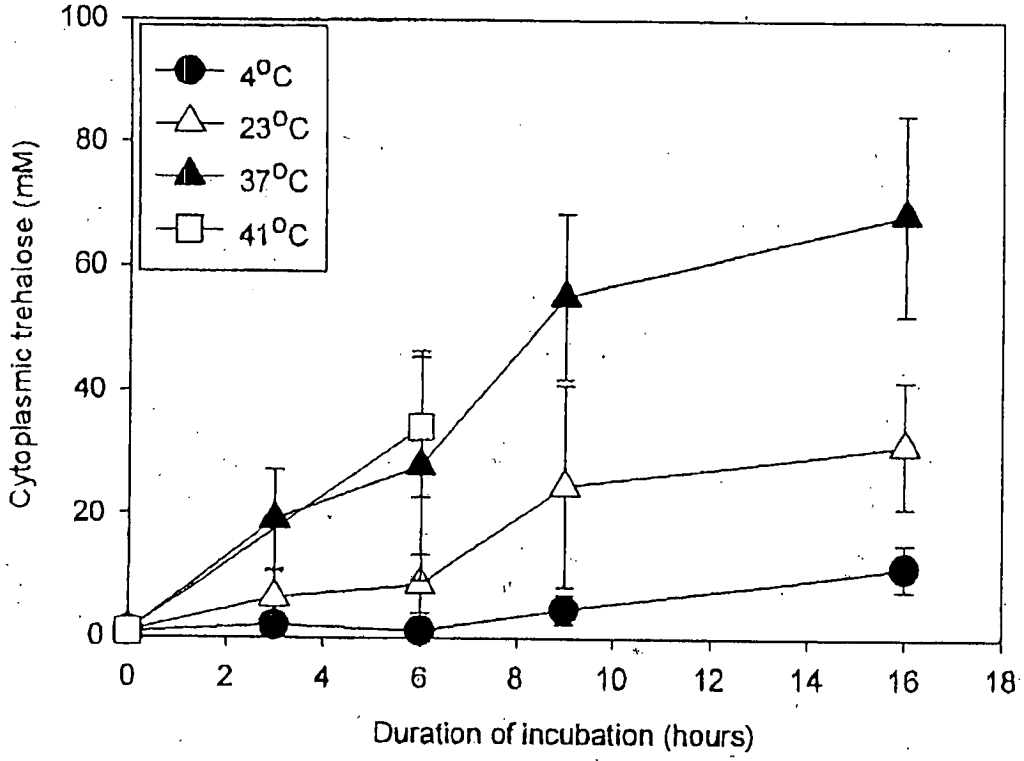


Fig 24

Figure Percent hemolysis of RBCs during incubation in 800 mM trehalose/100 mOsm ADSOL/6.6 mM Na-phopshate at 4°, 23°, 37°, and 41°C.

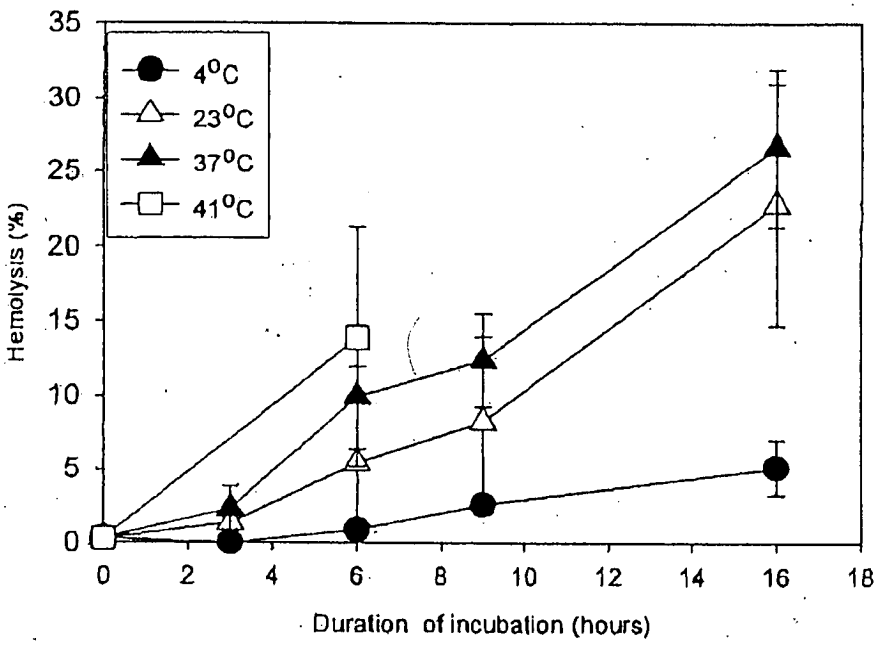


Fig 25

Figure ATP level of RBCs during incubation in 800 mM trehalose/100 mOsm ADSOL/6.6 mM Na-phopshate at 4° and 37°C.

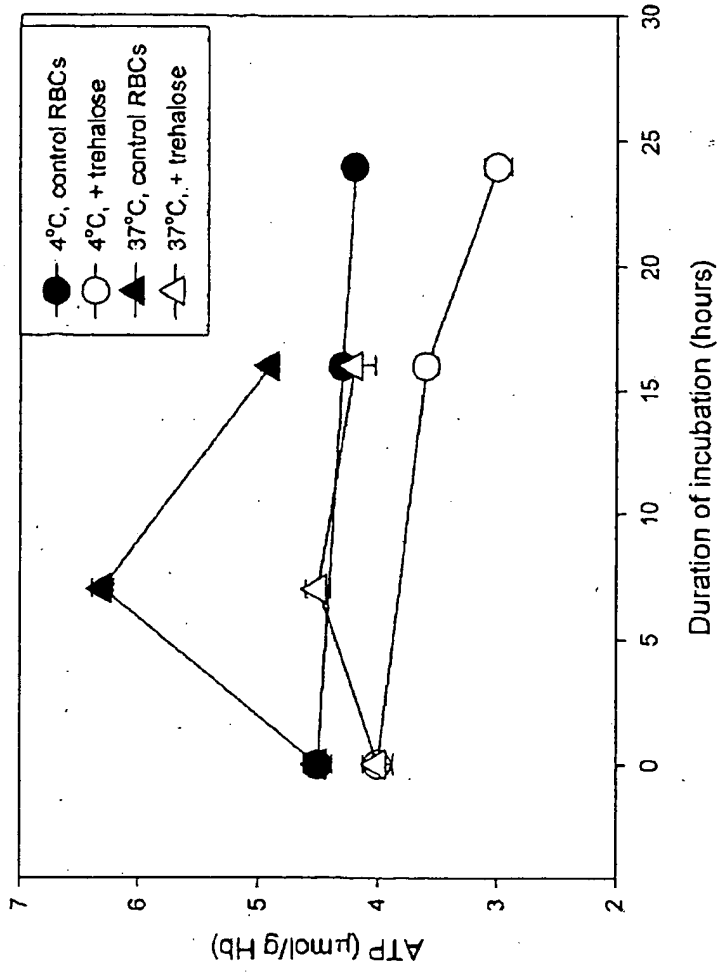


Fig 26

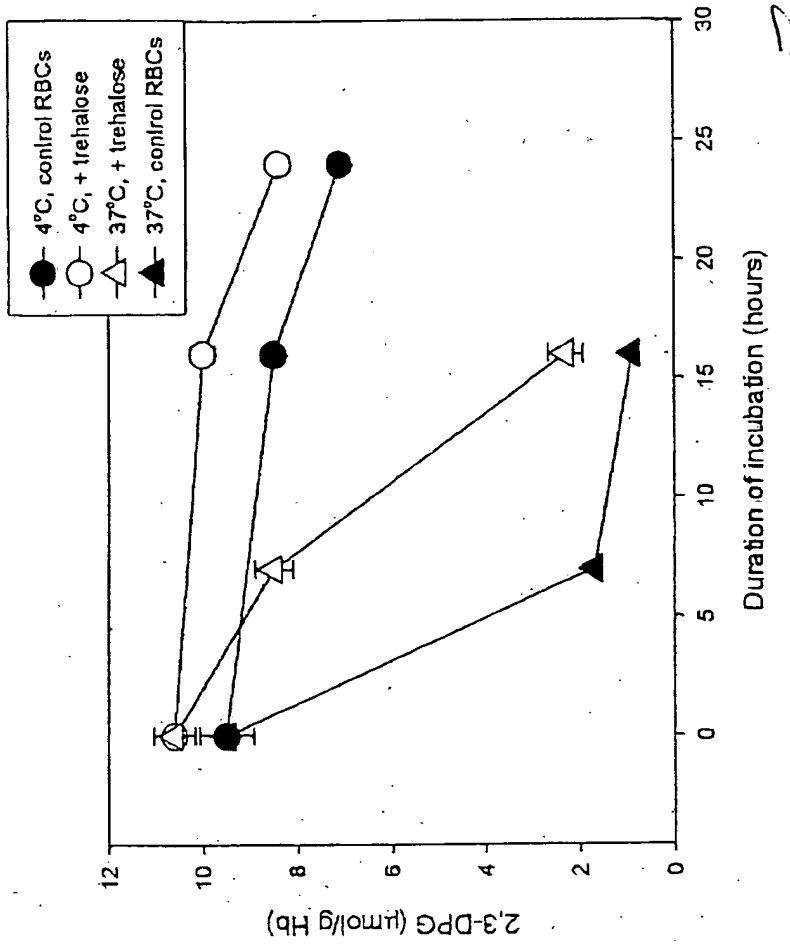


Fig 27

Figure . 2,3-DPG level of RBCs during incubation in 800 mM trehalose/100 mOsm ADSOL/6.6 mM Na-phopshate at 4° and 37°C.